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ABSTRACT

In November 1995, an online survey was conducted of 113 adult literacy practitioners who were actively using the Internet. Respondents reported the following difficulties encountered in learning to use the Internet: purchasing and learning to use hardware or software; getting access to a telephone line; getting an Internet account; learning account commands; accessing the Internet provider server; and learning to use various Internet features. They reported the following kinds of supports and training as helpful in overcoming these difficulties: hands-on experience; a friend or colleague; manuals, guides, or printed instruction; training workshop(s); technical assistance by telephone; online technical assistance by electronic mail, a message forum, or in real time; a "techno-buddy" assigned to help by telephone or in person; and course(s). These Internet features were used, in order of priority: electronic mail, listservs, World Wide Web, gopher, uploading/downloading files, newsgroups, and file transfer protocol. The Internet was used for adult education activities such as: electronic mail exchange with colleagues; using listservs or message forums/newsgroups to get and share information about practice or policy; searching databases for information; research; work on projects with colleagues; reading online magazines or journals; reviewing teacher-made curricula or lesson plans; helping students; looking for paid or volunteer work opportunities; and searching online news databases for adult education-related information. (Contains six tables.) (YLB)

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How Easy is it for Adult Educators to Use the Information Superhighway?

Are they cruising? Or are they stalled, or in the shop? How are they using the Internet? What difficulties do they find and what helps them to overcome them?

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February 26, 1996

As part of a research fellowship from the National Institute for Literacy, I recently conducted an on-line survey of 113 adult literacy practitioners (including a handful of international participants from Canada, Australia, New Zealand and the U.K.) who are actively using the internet; one clear finding is that Internet surfing isn't always sunny. Below are some of the challenges which many practitioners have faced, and what seems to have helped to overcome them; but first here's some background on the survey and the respondents.

I conducted the survey in November, 1995, using a questionnaire posted to as many of the adult literacy/basic skills/ESOL-oriented electronic lists (listservs) as I could find (NLA, NIFL-Workplace, NIFL-ESL, NIFL-ALLD, TESLIT-L, NUMERACY, LITERACY, LEARNER, and NWAC, among others.) It is impossible to know how many people saw the questionnaire, especially because it was forwarded to other lists and individuals; however, the response rate was larger than I anticipated. The respondents were at varying levels of competence and as a group had a wide range of years and kinds of experience in using the Internet; but as they have all found their way to at least one listserv, we can assume that they are all actually using the Internet and have some level of competence.

Like the adult literacy field, but in contrast to popular stereotypes of Internet users, a great majority of the respondents were female, and between the ages of 36 and 55. 37% were administrators, and 22% were teachers. The remaining respondents were: researchers, consultants, staff and curriculum developers, graduate students, librarians,VISTA volunteers, and others who work in the field of adult literacy/basic education/ESOL. 60% logged on to the Internet primarily from work, 37% logged on from home, and many logged on from both places. 54% of the respondents logged on from a large, medium or small urban area; another 25% from a suburban area; and 17% from a rural area. (See appended tables 1 - 6.)

Difficulties Encountered in Learning to Use the Internet,

The following were difficulties respondents encountered. They are reported here chronologically, from hardware and software purchase through regular use of an Internet account:

- **Purchasing hardware or software**

22% of the respondents found the cost of hardware or software a problem. 7% also had problems in purchasing hardware or software.

- **Learning to use the hardware and software**

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18% said they had problems in learning to use the hardware, and 44% said they had problems learning to use the software.

• **Getting access to a telephone line**
20% had difficulty getting access to a telephone line, but since only 22% of those who responded were teachers, this undoubtedly under-represents the problem for most teachers and tutors.

• **getting an Internet account**
14% had difficulty getting an account and 13% had problems with the cost of an account. Again, this is likely to be a larger problem for practitioners in public schools, community-based organizations and other venues where Internet accounts are not routinely provided free.

• **learning account commands, especially UNIX commands**
42% said that learning to use their system's internet commands was a problem.

• **difficulty accessing the Internet provider server**
37% reported having difficulty, once they had an account, in accessing their servers, including busy signals, slow service, getting bumped off once they logged on, and the cost of access calls.

• **learning to use various Internet features**
Once one is up and running, and able to use one's Internet account, there are many Internet features to use; but each must be learned, and some are more difficult to use than others. Here are some of the features in order of frequency of difficulty for respondents to learn:

- **uploading/downloading files**
  50% of the respondents had trouble learning this

- **file transfer protocol (FTP)**
  42% had trouble with this and four commented, "What is this?" and "Haven't learned it yet"

- **listservs (electronic lists)**
  36% had difficulty learning this and, although fewer people had problems with this than with ftp, those who did gave it higher priority.

- **searching databases**
  32% had problems learning this

- **e-mail**
  31% had problems learning how to do e-mail

- **the World Wide Web**
  29% have had difficulty learning to use the World Wide Web

- **Gopher**
  28% have had problems learning how to use Gopher

- **finding good listservs, Web sites, Gophers, MOOs, etc.**
  Another problem, aside from the technical ones involved in learning to use the various Internet services, is finding good resources on the Internet for adult literacy. 32% said this was a problem for them, although it

wasn't clear if they felt they were there to find. One person commented that the California-based Adult Education Server, OTAN, had good adult education resources already "bookmarked" through its pilot project.

- **finding the time required to learn the above**
  70% agreed, however that the biggest problem, however, was finding the time at work or at home to learn all this.

Selected Comments From Respondents

Many answering the questionnaire took the time to provide comments. Below is a range of comments which point to some other problems or illuminate the ones already mentioned.

"The most difficult thing was trying to find information about how to connect and get started. When I first became interested, I could only find a couple of books about the Internet. It was not a problem to get the equipment, but getting it all connected and working was a challenge. (Simple, logistical stuff proved to be very complicated.) Also, the learning curve requires that you devote a lot of time and patience up front. If one doesn't make the commitment, it's easy to say 'I don't have the time.' "

"I think the major difficulty for many people is configuring hardware, software and the Internet provider to make all the components "talk" to each other. Once you're up and running, all of the other stuff is manageable. It's a big exploration and with all the online assistance and plethora of books, it is quite workable. The major thing people need is curiosity and then a focus."

"Mostly it was using the different pieces of software...required on the Internet. For example, you need Eudora for email, and Usenet software for Usenet, and Netscape, and FTP software, and Telnet software; and all these have to be configured to fit into the Web browser you are using."

"My time is so limited that I can barely keep a meager listserv going. I really need to be able to pick up a phone and talk to someone...when I have a question. Calling an unhelpful 'techie' who virtually sneers at me when I ask a painfully rudimentary question is of no help to me, and in fact scares me away from asking again. My situation is probably not unlike others who are paid to do certain things but not to take the time to really master this useful technology. It's not in our 'job descriptions,' so it keeps getting pushed to the side."

"[I am] unable to convince my employer that an Internet account with lists & e-mail is necessary -- so I do netting at home, on my own time! With my own equipment!"

"Access to [a] telephone [is the] biggest problem at [the] worksite now."

"[The] #1 difficulty in relation to job/literacy applications: despite repeated requests and a mandate from the Assistant Head Administrator, I've been unable to get authority to access from the school or from home using the school account....Even with that access, I wouldn't have the ability to do more than e-mail. Progress has been promised, but I still may not be included since I'm part-time (although I'm the only person on the adult literacy staff who's had any experience and/or training -- which they paid for)."

"It isn't nice to look a gift horse in the mouth, and I have a free account through my nonprofit job status, but...the hours of my use are restricted to daytime only so the

students at the University can use the Net to study in the evening. As my free time tends to also be in the evening, this is a conflict that fits into the #1 priority problem, time. Also, "PINE," my e-mail word processing program, is cumbersome and erratic, and it ties up my phone line as we really can't afford a second line. The age of my computer and equipment is also an issue....as money is always a problem!!!"

"Downtime and lack of accessibility at times when it was needed to use with a class."

"Instead of just rtying 'hit or miss,' I should have taken a practical hands-on, visual course. Now one is being offered in our public library."

"[We need] female trainers who are not going to make me feel like an idiot. Also [there is] a barrier in the metaphors -- 'surfing' & 'superhighway' rather than a 'patchwork quilt' and 'bazaar' which are much more like what it seems like for me out there...but these are less Macho, less Californian methaphors. The guys in the information technology centre of our institute are of variable degrees of sexism -- we have 30% women in our Internet users group & they think this is **fantastic** -- well, it is compared to International figures."

"I remember almost giving up on the whole thing because Unix was so complicated."

"My first use of the Internet was through the University of Southern Maine's hookup at my house. Because I was going to classes there, I was able to use the University system. Although I experienced lots of difficulty initially using the hard- and software, with some practice I was doing ERIC searches easily and with satisfaction. Now that I've moved to Arizona -- and am not in classes until January, and so not yet hooked up to a University system, I use my America On Line to try and do ERIC searches. I've spent so much time attempting to get good information and getting nothing that I'be basically given up AOL accessing WWW. I have hooked up to a freenet here in Arizona and am experiencing just as much difficulty. Although I seem to get further with my ERIC searches, actually seeing references on the screen, I have have trouble limiting the searches to the specifics I need. Also, printing is a problem; I have to save them to another software, then print them out later. [I] can't seem to print right from the on-screen reference. I've tried the help line. Everyone is very helpful, but the time consumed tracking down help makes the whole thing crazy."

"Your survey arrived just when I was deciding that I am the only person in the world who needs to use this purportedly great database accessibility and can't figure the darn thing out."

"Understanding documentation."

"No real guidance in how to use all the features, fear of getting lost or wasting a lot of work time in learning how to use the features."

"Initially I found it very difficult to adjust to the volume of information coming at me every day. I felt I had to read all my listserv messages, didn't know how to get listserv messages under a different screen name than my personal mail, couldn't orient myself to chat language, etc."

Training or supports which helped in overcoming these difficulties

Below are the kinds of supports and training which respondents found helpful. Following each one is the percentage of respondents who identified this as helpful to them. Of course, this is also influenced by what supports and training were actually available.

- hands-on experience (trial and error) : 88%
- a friend or colleague who you could ask for help: 65%
- manuals, guides, or other printed instruction or "how-to's" : 50%
- training workshop(s) : 40%
- technical assistance by telephone : 27%
- colleagues who were struggling to learn the Internet together to whom you could go for support: 25%
- on-line technical assistance by e-mail or message forum: 24%
- on-line technical assistance in real time: 14%
- a "techno-buddy" assigned to help by telephone or in-person: 11%
- course(s) : 7%

Selected Respondents' Comments

"Most of the manuals I've seen weren't focused on my particular needs. I need access to quick, plain-English help from a knowledgeable person sympathetic to the needs of people like me -- busy with particular needs, with little background int he technicalities of this stuff."

"What helped the most was being given an account with unlimited access for a limited amount of months. With no fear of incurring unexpected expense and the ability to really explore, the rest was no longer a stumbling block."

"What helped me learn the most was an online course, the famous *Internet Road Map.* I learned far more through this course than any other training or workshop I have had before or since. (This course is still available on Gopher.)"

[Several respondents mentioned that *ROADMAP* was helpful.]

"Florida teachers have free Internet access -- at school and at home. Without the FIRN resource I never would have used or been able to afford the Internet."

"Tutorial help (one-onone) at least one hour weekly"

"Some combination of:

-- A special interest group of people with similar needs and knowledge level.
-- A good facilitator or two who can serve as a resource person.
-- Either an in-person meeting or on-line chats for the above group and facilitator, backed by occasional phone help. This in many ways follows the inquiry-based staff development model which SABES [the Massachusetts System for Adult Basic Education Support] and others use. In this case, the staff development need is learning how to use the Internet in one's work. This kind of system might be put into the staff development systems of existing state and national and local literacy organizations. Of course, someone has to pay for this, maybe via a combination of fees, paid by participants, and grants. Also, in addition to developing one's expertise, practitioners are also blocked by the cost (money and time) of purchasing the right equipment. Maybe some of these computer companies could help by giving folks a break on the cost."

"A guide put out by a literacy organization saying: 'Check this out for funding; check this out for program support; for.....; a how-to for literacy ideas."

"Other practitioners learning at the same time with me, and having the time (i.e. recognized as a valid use of my time) to wander around and get comfortable with what I have learned. Right now I only learn when I have to, i.e. when I'm asked to do something and it's new and at that point it's almost crisis management. But just spending time wandering is not a priority use of my time."

"I'm lucky in that I work at a University; therefore, software is not that difficult and neither is access. The University also provides free workshops and phone assistance. Plus we have a "techie" in the office who will help with technical problems. So, I don't have to be that technically astute. I seem to learn best by trial and error with someone I can call on when I get stuck. [The] biggest problem is time, time, time! Experience in projects that have taught others to use technology (not just Internet but basic operations) suggests having a technical person available for assistance, hands-on practice with feedback during training, a series of trainings rather than just one intro, and a perceived or actual need to learn. (I didn't learn to use e-mail, WWW, etc. until I had to; then I made the time to do it.)

"The unlimited access account to get started, someone known (and friendly) to converse with across the net, a few leads and tips on how to find things on the Web and in Gopherspace, some time to play around (I just make time but I know a bunch of folks wno will not), [and] a lot of natural curiosity. It was tremendously exciting, too, to find Listservs that helped me professionally."

"An opportunity to have a smaller peer group to work and do the browsing with and to share good experiences, problems, etc. with"

"Easily accessed help features that really explained what to do or hard copy manuals."

"Having a 'techno buddy' assigned to me because I elarn best by show and do"

"I learned the way I needed to, although I think that more tech manuals written in 'real people's language' would have been wonderful."

[Several respondents suggested the need for manuals in plain English]

"A learning buddy. Someone who knows a little bit more than I do."

"A workshop designed specifically for literacy providers"

Having a technical support person who was readily available to help, explain things, answer questions, demonstrate procedures, etc."

"The OTAN pilot project [in California] was terrific. It provided a very simple explanation to a complex tool, gave hands on experience, and any follow-up phone or online help I needed. It was definitely a coup. Without it the possible use of online services was intimidating, confusing and seemingly expensive. That free 6-month period gave me the grace time to practice, explore and feel like I can now pay for service because 1) I know how to use it, 2) I know how valuable it is."

"If I had been working with others and not out of my home computer, it would have been easier to overcome the problems I first encountered. When I worked for two months in a setting with others who are completely computer smart, it made things very easy and I was able to elarn some very helpful shortcuts."

How Respondents Are Using the Internet

Internet features used (for any purpose) by priority

The overwhelming majority of respondents use the Internet for e-mail and listservs. (The high percentage of listserv users is easily explained by the fact that all respondents were identified through the use of listservs. One could not generalize this finding to the general population of adult literacy/basic education/ESOL practitioners on the Internet.)

- e-mail: 98%
- listservs: 92%
- world wide web: 78%
- gopher: 58%
- uploading/downloading files: 55%
- newsgroups: 34%
- file transfer protocol: 27%

Other(s) which were mentioned by at least one respondent:

Searching databases (e.g. library or ERIC searches)
Research
Chats
Telnet
Online book groups
Discussion groups
Creating homepages
Comnnection to America Online
MUDS [MOOs] such as SchMOOze University

How the Internet is Used for Adult Education Activities

- e-mail exchanges with colleagues: 94%
- using listservs or message forums/newsgroups to get and share information about practice or policy: 92%
- searching databases for information: 69%
- research, e.g. by searching databases or on-line documents: 64%
- work on projects with colleagues, such as writing articles or proposals or planning meetings or conferences: 52%
- reading on-line magazines or journals: 50%
- reviewing teacher-made curricula or lesson plans: 27%
- helping students do electronic pen-pal-ing, or join message forums: 20%
- looking for paid or volunteer work opportunities: 19%
- searching on-line news databases (e.g. UP, AP, Reuters, etc.) for adult education-related information: 32%

Others mentioned:

"up- and downloading files between my regional SLRC [State Literacy Resource Center] and the central, one in Sacramento."

"We are a coalition of literacy organizations beginning a big project to get all members organizations (30 of them) online -- to learn, to improve services, to save resources, and hopefully to get students online. The coalition office is heading [up] this project."

"Searching for grant and other funding resources, for example the Federal Register."

"Will be using Net for teacher-made curricula and homepage in Spring '96."

"Examining my practice in terms of social and political prejudices, identifying with other practitioners who face similar problems, exploring philosophy of teaching, thinking about why students are so scared and how current educational practices in K to 12 aren't eliminating the fear factor in terms of math."

"Teaching - using Internet as a tool for teaching mass media, new technology, finding information, research, etc."

"Use downloaded educational software in the computer lab. Use downloaded utilities and system upgrades to maintain lab."

TABLES

Table1. Gender

Female:	89 (79%)
Male:	24 (21%)

Table 2. Age

18-25:	4 (4%)
26-35:	17 (15%)
36-45:	35 (31%)
46-55:	48 (42%)
56 or older:	6 (5%)
Not Listed:	3 (3%)

Table 3. Primary work

Teaching:	25 (22%)
Administration:	42 (37%)
Staff Development:	10 (9%)
Research:	12 (11%)
Other:	24 (21%)

(2) VISTA Volunteers
State Literacy and Adult Education Resource Center Director
Academic Advisor/Program Advocate
ABE Counselor, Level I
(3) Librarians
University Professor
Curriculum and Technology Coordinator
Curriculum Developer
Literacy Task Analysis and Assessment Developer
Policy Analyist
(5) Graduate Students
Consultant
Resource Teacher
(4) not listed

Table 4. Where Respondents Usually Log onto the Internet from

Work:	60%
Home:	37%
Not Listed:	3%

Table 5. Where Logon Site is Located

an urban area:	54%
a suburban area:	25%
a rural area:	17%
Not Listed:	4%

Table 6. Years on the Internet

Up to 6 months:	14%
Up to one year:	29%
Up to two years:	34%
More than two years:	23%